

REMARKS

Claims 4-14 and 16-28 are pending in this application. Claims 1-3 and 15 have previously been canceled without prejudice or disclaimer.

Claims 4-14 and 16-21 have been allowed without the necessity of amendments. The Examiner's indication of allowability of these claims is noted with appreciation. For purposes of expedition, claims 4-6, 8-9, 13 and 20 have been amended in several particulars for purposes of clarity and brevity to place in condition for issuance. On page 4 of the Office Action (Paper No. 20), the Examiner sets forth the reasons for allowance, as including, for example, the feature "wherein a DC converter controls its output to be boosted over a DC power storage means and to be substantially equal to the output voltage of the DC power of the AC/DC converter". For purposes of completeness, independent claim 23 has been newly added to alternatively define a power supply including an AC/DC converter 1, a DC converter 3, a battery 4 and a DC/DC converter 2 with details as shown in FIG. 1, FIG. 2, FIG. 3, FIG. 4, FIG. 5, FIG. 6, FIG. 7, and FIG. 8, including the allowable feature "wherein a DC converter controls its output to be boosted over a DC power storage means and to be substantially equal to the output voltage of the DC power of the AC/DC converter" as indicated by the Examiner. As a result, base claim 23 and its dependent claims 24-28 are believed to be condition for allowance.

Claim 22 has been rejected under 35 U.S.C. §103 as being unpatentable over Faberman et al., U.S. Patent No. 5,978,236 in view of Brand et al., U.S. Patent No. 5,901,057. This rejection is respectfully traversed, however. Applicants respectfully submit that features of Applicants' base claim 22 are **not** disclosed or suggested by Faberman et al., U.S. Patent No. 5,978,236 or Brand et al., U.S. Patent No.

5,901,057, whether taken individually or in combination with any other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection for the following reasons.

Claim 22 defines a **power supply comprising a plurality of power supply units connected in parallel with one another**, wherein **each** of the plurality of **power supply units includes:**

- an AC/DC converter which receives AC power, converts the AC power into DC power, and outputs the DC power, the AC/DC converter including a control circuit which controls an output voltage of the DC power output from the AC/DC converter to be equal to a predetermined DC voltage;

- a DC/DC converter which receives the DC power from the AC/DC converter, and controls a level of an output voltage of the DC/DC converter to be equal to a level of a voltage to be used by a load while the DC/DC converter supplies the output voltage to the load;

- a DC converter connected to an input of the DC/DC converter;

and

- DC power storage means which supplies electric power to the DC/DC converter through the DC converter, the DC converter being bidirectional to charge and discharge the DC power storage means;

- wherein the control circuit controls the output voltage of the DC power of the AC/DC converter to be equal to a predetermined DC voltage on the basis of ON/OFF actuation of a semiconductor switching device of a main circuit of the AC/DC converter and effects control to suppress harmonic current in the received AC power; and

- wherein the DC converter includes a plurality of multiplexed DC converters connected in parallel.

As expressly defined in Applicants' base claim 22, the power supply comprises a plurality of power supply units connected in parallel with one another and each of the plurality of power supply units includes a DC converter 3, as shown in FIG. 4, for example, including a plurality of multiplexed DC converters connected in parallel. Since the plurality of power units are arranged in parallel with one another, even if any one of the plurality of power supply units is broken or interrupted, the other power supply unit of the plurality of units can advantageously

supply electric power to the load securely. Moreover, each of the power supply units comprises a DC converter 3, as shown in FIG. 4, including a plurality of multiplexed DC converts connected in parallel. Therefore, even if any one of the multiplexed DC converters is broken or interrupted, the other DC multiplexed DC converter can always function as a DC converter without stopping the power supply itself.

In contrast to Applicants' claim 22, Faberman '236, as a primary reference, discloses an uninterruptible power supply as shown in FIG. 1, in which the backup power source is connected to the power supply of the protected computer by means of a bi-directional power converter.

However, Faberman '236 does **not** disclose or suggest any power supply having a plurality of power supply units connected in parallel with one another as expressly defined in Applicants' base claim 22. More importantly, Faberman '236 does not disclose or suggest the use of a DC converter including a plurality of multiplexed DC converters as expressly defined in Applicants' base claim 22. As a result, if any one of constituent elements of the power supply breaks down, the power supply cannot function.

As a secondary reference, Brand '057 does **not** remedy the noted deficiencies of Faberman '236 in order to arrive at Applicants' base claim 22. Specifically, Brand '057 discloses a plurality of batteries connected in parallel with one another and a plurality of DC converters connected in parallel with one another. The respective batteries and respective DC converters are connected in series in one-to-one. However, if any one of converters breaks down, a battery corresponding to the broken-down converter **cannot** be utilized.

In contrast to Brand '057, Applicants' base claim 22 requires a single battery (DC power storage means), and since the battery (DC power storage means) is connected to the DC converter including a plurality of multiplexed DC converters connected in parallel, if one of the multiplexed DC converters breaks down, the other multiplexed DC converter can function as DC converter to effectively utilize the battery.

In order to establish a *prima facie* case of obviousness under 35 U.S.C. §103, the Examiner must show that the prior art reference (or references when combined) must teach or suggest all the claim limitations, and that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skilled in the art, to modify the reference or to combine reference teachings, provided with a reasonable expectation of success. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and **not** based on Applicants' disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 2143. In other words, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Moreover, "obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." ACS Hospital System, Inc v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The Examiner must point to something in the prior art that suggests in some way a modification of a particular reference or a combination of references in order to arrive at Applicants' claimed invention. Absent such a showing, the Examiner has

improperly used Applicants' disclosure as an instruction book on how to reconstruct to the prior art to arrive at Applicants' claimed invention.

In the present situation, both Faberman '236 and Brand '057, whether taken in combination or individually, fail to disclose and suggest all features of Applicants' base claim 22. Therefore, Applicants respectfully request that the rejection of claim 22 be withdrawn.

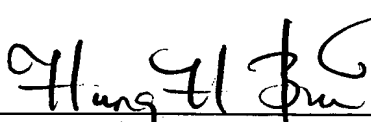
In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, No. 01-2135 (Application No. 500.38034CX1), and please credit any excess fees to said deposit account.

Respectfully submitted,

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